

No.

200100207



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

South Carolina Agriculture and Forestry Research System

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE SEED. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'SANTEE'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twelfth day of September, in the year two thousand one.

Attest:

Paul M. Jackson

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

W. H. McGowan


Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

1. NAME OF OWNER South Carolina Agriculture and Forestry Research System		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME SC91-2007		3. VARIETY NAME Santee	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 104 Barre Hall Clemson University Clemson, SC 29634-0351		5. TELEPHONE (include area code) 864/656-3140		FOR OFFICIAL USE ONLY PVPO NUMBER 200100207 FILING DATE 5/16/2001	
		6. FAX (include area code) 864/656-3779			
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) State Agricultural Experiment Station		8. IF INCORPORATED, GIVE STATE OF INCORPORATION		9. DATE OF INCORPORATION	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) G. Michael Watkins S.C. Foundation Seed Association 1162 Cherry Road, Clemson University Clemson, SC 29634-9952					FILING AND EXAMINATION FEES: \$ 2705. ⁰⁰ DATE 5/16/2001 CERTIFICATION FEE: \$ 320. ⁰⁰ DATE 8/17/01
11. TELEPHONE (Include area code) 864/656-2520		12. FAX (Include area code) 864/656-1320		13. E-MAIL seedw@clemson.edu	
14. CROP KIND (Common Name) Soybean					
15. GENUS AND SPECIES NAME OF CROP Glycine max		16. FAMILY NAME (Botanical) Leguminosae		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)			19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input checked="" type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input type="checkbox"/> NO (If "no," go to item 22)		
20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input checked="" type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED		
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)			23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER  NAME (Please print or type) James R. Fischer			SIGNATURE OF OWNER NAME (Please print or type)		
CAPACITY OR TITLE Dean/Director, S.C. Agric. & For. Res. System		DATE 5-7-01		CAPACITY OR TITLE	
DATE		DATE			

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable, untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,450 (\$300 filing fee and \$2,150 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$300 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvp.htm>

ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

05/31/00 in US

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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S&T-470 (6-98) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (03-96) which is obsolete.

EXHIBIT A

SOUTH CAROLINA AGRICULTURE AND FORESTRY RESEARCH SYSTEM

SC91-2007 SANTEE SOYBEAN

SOYBEAN

'Santee'

16A. Origin and Breeding History of the Variety

Pedigree: Coker 82-622 X Hutcheson

Parentage of COKER 82-622 is Braxton X Coker 368

Parentage of HUTCHESON is V68-1034 X Essex

Parentage of V68-1034 is York X PI 71.506

Santee is derived from a F_4 plant from a cross made at Clemson, S.C., in 1988. Generations were advanced to the F_4 by the single-seed descent (pod-bulk) breeding method. The strain was composited in the F_5 generation in 1991 and designated SC91-2007. From 1992 to 1993, Santee was tested as SC91-2007 for nematode resistance, agronomic performance and seed yield in South Carolina. SC91-2007 has been evaluated in South Carolina Variety Trials (1995 to present) and USDA Southern Regional Soybean Tests from 1994 to 1997.

Seed from 140 F_9 plants were grown in plant rows (F_{10}) in 1997. Rows were evaluated for uniform agronomic traits and resistance to soybean cyst nematode, race 3. Eighty-three rows were bulked (Winter, 1997-98). Breeder seed was increased in 1999 and 2000. Santee appears stable and uniform within commercially acceptable limits during seed increase since 1997.

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EXHIBIT B

SOUTH CAROLINA AGRICULTURE AND FORESTRY RESEARCH SYSTEM

SC91-2007 SANTEE SOYBEAN

16B. Statement of Distinctness

To our knowledge, Santee most closely resembles Musen. Both cultivars have white flowers and gray pubescence. Santee differs from Musen in being susceptible to soybean cyst nematode, **Race 14**, and being 3 to 5 days later in maturity.

OBJECTIVE DESCRIPTION OF VARIETY
 SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) South Carolina Agriculture and Forestry Research System	TEMPORARY DESIGNATION SC91-2007	VARIETY NAME Santee
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) 104 Barre Hall Clemson University Clemson, SC 29634-0351		FOR OFFICIAL USE ONLY PVPO NUMBER 200100207

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
 3 = Elongate (L/T ratio > 1.2; T/W < 1.2)

2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
 4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ 2. SEED COAT COLOR: (Mature Seed)

1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other (Specify) _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

★ 5. HILUM COLOR: (Mature Seed)

1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other (Specify) _____

★ 6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow 2 = Green

★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low 2 = High

★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP1^a) 2 = Type B (SP1^b)

★ 9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
 3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')
 4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ 10. LEAFLET SHAPE:

1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other (Specify) _____

11. LEAFLET SIZE:

1 = Small ('Amsoy 71'; 'A5312')
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

12. LEAF COLOR:

1 = Light Green ('Weber'; 'York')
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

★ 13. FLOWER COLOR:

1 = White

2 = Purple

3 = White with purple throat

★ 14. POD COLOR:

1 = Tan

2 = Brown

3 = Black

★ 15. PLANT PUBESCENCE COLOR:

1 = Gray

2 = Brown (Tawny)

16. PLANT TYPES:

1 = Slender ('Essex'; 'Amsoy 71')
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

★ 17. PLANT HABIT:

1 = Determinate ('Gnome'; 'Braxton')
3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

2 = Semi-Determinate ('Will')

★ 18. MATURITY GROUP:

1 = 000
9 = VI2 = 00
10 = VII3 = 0
11 = VIII4 = I
12 = IX5 = II
13 = X

6 = III

7 = IV

8 = V

★ 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

★

Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

★

Bacterial Blight (*Pseudomonas glycinea*)

★

Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

★

Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojina*)

★

Race 1

Race 2

Race 3

Race 4

Race 5

Other (Specify)

Target Spot (*Corynespora cassicola*)Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)Powdery Mildew (*Microsphaera diffusa*)

★

Brown Stem Rot (*Cephalosporium gregatum*)Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

- ★ Pod and Stem Blight (*Diaporthe phaseolorum* var; *sojae*)
- Purple Seed Stain (*Cercospora kikuchii*)
- Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ★ Race 1 Race 2 Race 3 Race 4 Race 5 Race 6 Race 7
- Race 8 Race 9 Other (Specify) Race 10

VIRAL DISEASES:

- Bud Blight (Tobacco Ringspot Virus)
- Yellow Mosaic (Bean Yellow Mosaic Virus)
- ★ Cowpea Mosaic (Cowpea Chlorotic Virus)
- Pod Mottle (Bean Pod Mottle Virus)
- ★ Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ★ Race 1 Race 2 Race 3 Race 4 Other (Specify) Race 14
- Lance Nematode (*Hoplolaimus Colombus*) (Tolerant)
- ★ Southern Root Knot Nematode (*Meloidogyne incognita*) (Moderately resistant)
- ★ Northern Root Knot Nematode (*Meloidogyne Hapla*)
- Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- Reniform Nematode (*Rotylenchulus reniformis*)
- OTHER DISEASE NOT ON FORM (Specify): _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ★ Iron Chlorosis on Calcareous Soil
- Other (Specify) _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- Mexican Bean Beetle (*Epilachna varivestis*)
- Potato Leaf Hopper (*Empoasca fabae*)
- Other (Specify) _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	Musen	Seed Coat Luster	Musen
Leaf Shape	Musen	Seed Size	Dillon
Leaf Color	Musen	Seed Shape	Musen
Leaf Size	Musen	Seedling Pigmentation	Musen

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/ POD
				CM Width	CM Length	% Protein	% Oil		
Santee Submitted	158	2.0	94	-	-	42.9	20.8	14.1	2-3
Musen Name of Similar Variety	155	2.0	84	-	-	41.1	20.1	12.0	2-3

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A₂ in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

UNIFORM SOYBEAN TESTS

SOUTHERN STATES

200100207

1996

COORDINATED BY:

Jeffrey M. Tyler

DATA COMPILED BY:

Patricia P. Bell

USDA-ARS
Soybean Production Research Unit
P.O. Box 196
Stoneville, Mississippi 38776

DATA SUPPLIED BY:

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W. J. Kenworthy, UM, College Park, MD
J. E. Askew, MSU, Starkville, MS
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S. C. Anand, MU, Portageville, MO
J. W. Burton, USDA-ARS, Raleigh, NC
T. E. Carter, USDA, ARS, Raleigh, NC
L. H. Edwards, OSU, Stillwater, OK
E. R. Shipe, CU, Clemson, SC
F. L. Allen, UT, Knoxville, TN
H. Henderson, UT, Martin, TN
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L. D. Young, USDA-ARS, Jackson, TN
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D. E. Starner, VPISU, Orange, VA
T. Mebratu, Petersburg, VA
H. Pulley, TAEX, Suffolk, VA

Factors considered in estimating seed quality were development of seed, wrinkling damage, and brightness. While the seed quality score indicates relative appearance of seed for strains at one location, considerable differences can exist among factors responsible for the poorer grades at different locations. Seed size for each strain was determined from a composite sample from all replications at a location. Seed size is reported as grams per 100 seed.

Oil and protein percentages were determined from representative locations of the uniform and preliminary tests. A 50-g composite sample of each strain from all replications at a location was sent to the USDA-ARS, National Center for Agricultural Utilization Research at Peoria, Illinois for analysis. Two samples of 18-20 g of seed were analyzed for protein and oil composition with a Model 1255 Infratec NIR food and feed grain analyzer. Analysis of the seed was conducted on an as is basis and then mathematically converted to a moisture-free basis for reporting.

Pest Assessment

Root-knot nematode. Screenings of strains of UIVS - UVIII were conducted in a greenhouse at the University of Georgia.

Three seeds of each genotype were planted in Ray Leach Cone-tainers (20.6 cm long) filled with fumigated sandy loam soil to within 5 cm of the top and then covered with 2.5 cm of fumigated sand. Ten Cone-tainers each of a susceptible and resistant standard cultivar were included in each test. Forty-nine Cone-tainers were placed in a RL-98 tray, filling every other row of the tray. The trays (45) were placed on a greenhouse bench under supplemental light provided by 400-watt metal halide lamps and under an automatic irrigation system. Seven to 10 days after planting, plants were thinned to one seedling per Cone-tainer and inoculated with 3000 root-knot nematode eggs collected with 0.5% NaOCL (10% Clorox). The inoculum (3-5 ml depending on egg concentration) was placed with a digital dispensing pump in a soil at a depth of 2-3 cm. Plants were watered manually for 1-2 days following inoculation before turning on the automatic irrigation system. All plants were fertilized weekly with 20-20-20 (N = 20%, P = 8.7%, K = 16.6%) fertilizer solution.

Thirty days after inoculation, roots of two of the standard check plants were examined for galls to assess whether to begin the process of evaluating the entire test. For evaluation, shoots were excised and root systems removed from the Cone-tainers and washed free of soil. For screening advanced breeding lines, the total number of galls per root system was counted. For all other studies, the number of galls on the remainder of the susceptible and resistant check plants was used to develop a gall index for evaluating the genotypes. The gall indexes (based on the number of galls/plant) were as follows: *Meloidogyne incognita* - 1:0-8, 2:9-16, 3:17-24; 4:25-32; and 5:33+; *M. arenaria* - 1:0-10; 2:11-20; 3:21-30; 4:31-40; and 5:41+.

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Screenings for strains of UIVS-UVIII and PIVS-PVIII were conducted in a greenhouse at the USDA-ARS Nematology Investigations at Jackson, Tennessee.

Seven seed of each genotype was planted in each of three pots filled with sterilized sandy loam soil. Approximately 3,000 eggs of the nematode was added to the potted soil just prior to planting. Plants were evaluated for amount of root galling at six weeks after planting. The ratings for galling were as follows:

- 1 = <10% of root system with small galls,
- 2 = 10-25% of root system galled with mostly small galls,
- 3 = 26-50% of root system galled with several large galls,
- 4 = 51-90% of root system galled with mostly large galls, and
- 5 = 91-100% of root system galled with large galls and some root rot.

The mean rating reported for each strain was calculated as follows:

$$\text{Mean rating} = \Sigma(\text{Rating category} \times \# \text{ plants receiving rating}) / \text{Total \# of plants}$$

The isolates of *M. incognita* and *M. arenaria* were obtained from Dr. Robert A. Kinloch, University of Florida. The isolates of the nematodes used were different than those used by Dr. Roger Boerma at the University of Georgia.

Soybean cyst nematode. The SCN race 3 and 14 ratings reported for UIVS - UVIII were based on screenings made at Jackson, Tennessee. For the screening, seed of each strain was planted in sterile soil at a rate of one per pot for a total of seven pots per strain. At the time of planting, 1000 eggs of the race being evaluated were added to each pot. Approximately four weeks after planting, plants were rated based on the number of female cysts on the roots. The ratings were as follows:

- 1 = 0-5 female cysts on the roots,
- 2 = 6-10 female cysts on the roots,
- 3 = 11-20 female cysts on the roots,
- 4 = 21-40 female cysts on the roots,
- 5 = > 40 female cysts on the roots.

The mean rating reported for each strain was calculated the same formula that was used to calculate the root-knot nematode mean ratings.

TABLE 36 - (Continued).

PEST REACTIONS								
STRAIN/ VARIETY	STEM CANKER	M.a. GA	M.a. TN	M.i. GA	M.i. TN	SCN 3	SCN 5	SCN 14
1. BRIM	S	3.8	4.0	5.0	5.0	4.9	5.0	5.0
2. DILLON	S	3.3	4.0	1.0	2.7	4.8	5.0	5.0
3. R92-1258	R	4.3	4.3	4.8	3.8	4.8	5.0	5.0
4. G89-2223	R	3.3	2.5	1.0	2.7	1.1	2.2	5.0
5. G89-300	R	4.5	4.3	1.5	3.2	4.8	5.0	5.0
6. G91-291	R	4.3	4.2	1.0	2.8	1.0	2.5	5.0
7. SC90-2089	R	3.5	4.8	2.0	4.2	1.0	5.0	5.0
8. SC91-2007	R	3.5	4.0	2.8	4.3	1.7	3.7	4.9
9. SC92-549	S	2.5	3.3	1.3	2.6	1.4	5.0	4.7
10. OK89-5618	S	3.5	4.0	1.0	3.2	1.3	5.0	4.8
11. S93-1631	S	3.5	4.8	4.8	5.0	1.0	4.9	2.8
12. N92-598	S	3.5	4.7	4.0	3.8	5.0	5.0	5.0
13. N93-132	R/S	3.8	5.0	5.0	4.3	4.9	5.0	5.0
14. N93-430	S	4.0	4.3	4.0	3.8	5.0	5.0	5.0
15. AU92-3414	S	3.8	4.2	1.5	3.8	5.0	4.3	5.0
16. AU92-763	S	4.3	4.3	1.0	3.8	1.0	3.7	5.0
17. AU90-585	R	3.8	4.0	3.0	4.0	5.0	5.0	5.0
18. TN93-142	R	5.0	4.7	3.8	4.0	1.0	5.0	3.5

200100207

MATURITY

+
SCN RATING

Santee
Musen

UNIFORM SOYBEAN TESTS

SOUTHERN STATES

1995

COORDINATED BY:

Jeffrey M. Tyler

DATA COMPILED BY:

Patricia P. Bell

USDA-ARS

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METHODS

Cultural Practices

The uniform nurseries were planted in four-row plots with three replications at all locations with the exception of one location which had three-row plots with three replications. The preliminary nurseries were planted similarly with two replications. Row widths at the locations varied from 20 to 40 inches with the majority planted in 30 inch rows. The recommended cultural and management practices were generally followed at each location.

Maturity, Harvest, and Yield

Height in a plot was measured as the average length of plants from the ground to the top extremity at maturity.

Lodging notes were recorded on a scale of 1 to 5 according to the following criteria:

- 1 - almost all plants erect
- 2 - either all plants leaning slightly, or a few plants down
- 3 - either all plants leaning moderately, or 25 to 50% of the plants down
- 4 - either all plants leaning considerably, or 50 to 80% of the plants down
- 5 - all plants down

Maturity was recorded as the date when 95% of the pods had reached mature pod color (Fehr and Caviness, 1977). Maturity in all summaries is expressed as days earlier (-) or later (+) than the reference variety. Reference varieties used in the different maturity groups were as follows: UIVS and PIVS, Manokin; UV and PV, Hutcheson; UVI and PVI, Brim; UVII and PVII, Stonewall; and UVIII and PVIII, Cook.

After end trimming all plots, yields were measured by harvesting the middle row(s) of each plot. Actual seed weights were recorded after the seed of the strains had reached a uniform moisture content. Seed weights were converted to bushels per acre (60 lbs./bu.) by using the appropriate conversion factor for each location with respect to harvested plot size.

Seed quality was rated from 1 to 5 according to the following scale:

- 1 - very good; 2 - good; 3 - fair; 4 - poor; 5 - very poor

Factors considered in estimating seed quality were development of seed, wrinkling damage, and brightness. While the seed quality score indicates relative appearance of seed for strains at one location, considerable differences can exist among factors responsible for the poorer grades at different locations. Seed size for each strain was determined from a composite sample from all replications at a location. Seed size is reported as grams per 100 seed.

Oil and protein percentages were determined from representative locations of the uniform and preliminary tests. A 50-g composite sample of each strain from all replications at a location was sent to the USDA-ARS, National Center for Agricultural Utilization Research at Peoria, Illinois for analysis. Two samples of 18-20 g of seed were analyzed for protein and oil composition with a Model 1255 Infratec NIR food and feed grain analyzer. Analysis of the seed was conducted on an as is basis and then mathematically converted to a moisture-free basis for reporting.

Pest Assessment

Root-knot nematode. Screenings of strains of UIVS - UVIII were conducted in a greenhouse at the University of Georgia.

Three seeds of each genotype were planted in Ray Leach Cone-tainers (20.6 cm long) filled with fumigated sandy loam soil to within 5 cm of the top and then covered with 2.5 cm of fumigated sand. Ten Cone-tainers each of a susceptible and resistant standard cultivar were included in each test. Forty-nine Cone-tainers were placed in a RL-98 tray, filling every other row of the tray. The trays (45) were placed on a greenhouse bench under supplemental light provided by 400-watt metal halide lamps and under an automatic irrigation system. Seven to 10 days after planting, plants were thinned to one seedling per Cone-tainer and inoculated with 3000 root-knot nematode eggs collected with 0.5% NaOCL (10% Clorox). The inoculum (3-5 ml depending on egg concentration) was placed with a digital dispensing pump in a soil at a depth of 2-3 cm. Plants were watered manually for 1-2 days following inoculation before turning on the automatic irrigation system. All plants were fertilized weekly with 20-20-20 (N = 20%, P = 8.7%, K = 16.6%) fertilizer solution.

Thirty days after inoculation, roots of two of the standard check plants were examined for galls to assess whether to begin the process of evaluating the entire test. For evaluation, shoots were excised and root systems removed from the Cone-tainers and washed free of soil. For screening advanced breeding lines, the total number of galls per root system was counted. For all other studies, the number of galls on the remainder of the susceptible and resistant check plants was used to develop a gall index for evaluating the genotypes. The gall indexes (based on the number of galls/plant) were as follows: *Meloidogyne incognita* - 1:0-8, 2:9-16, 3:17-24; 4:25-32; and 5:33+; *M. arenaria* - 1:0-10; 2:11-20; 3:21-30; 4:31-40; and 5:41+.

Screenings for strains of UIVS-UVIII and PIVS-PVIII were conducted in a greenhouse at the USDA-ARS Nematology Investigations at Jackson, Tennessee.

Seven seed of each genotype was planted in each of three pots filled with sterilized sandy loam soil. Approximately 3,000 eggs of the nematode was added to the potted soil just prior to planting. Plants were evaluated for amount of root galling at six weeks after planting. The ratings for galling were as follows:

- 1 = <10% of root system with small galls,
- 2 = 10-25% of root system galled with mostly small galls,
- 3 = 26-50% of root system galled with several large galls,
- 4 = 51-90% of root system galled with mostly large galls, and
- 5 = 91-100% of root system galled with large galls and some root rot.

The mean rating reported for each strain was calculated as follows:

$$\text{Mean rating} = \Sigma(\text{Rating category} \times \# \text{ plants receiving rating}) / \text{Total \# of plants}$$

The isolates of *M. incognita* race 4 and *M. arenaria* race 2 were obtained from Dr. Gary Windham, USDA-ARS, Mississippi State, MS. The isolates of the nematodes used were different than those used by Dr. Roger Boerma at the University of Georgia.

Soybean cyst nematode. The SCN race 3 and 14 ratings reported for UIVS - UVIII were based on screenings made at Jackson, Tennessee. For the screening, seed of each strain was planted in sterile soil at a rate of one per pot for a total of seven pots per strain. At the time of planting, 1000 eggs of the race being evaluated were added to each pot. Approximately four weeks after planting, plants were rated based on the number of female cysts on the roots. The ratings were as follows:

- 1 = 0-5 female cysts on the roots,
- 2 = 6-10 female cysts on the roots,
- 3 = 11-20 female cysts on the roots,
- 4 = 21-40 female cysts on the roots,
- 5 = > 40 female cysts on the roots.

The mean rating reported for each strain was calculated the same formula that was used to calculate the root-knot nematode mean ratings.

Stem Canker

Mississippi. Strains from UIVS-UVIII and PIVS-PV were evaluated at the Delta Research and Extension Center, Stoneville, Mississippi. Strains were planted in single-row plots 1.8 m long in a Boskett fine sandy loam in a randomized complete block design with four replications. A susceptible line (J77-339) was planted every ten plots. Inoculum was produced by aseptically culturing isolate 90-46 of the fungus on autoclaved toothpicks. Twelve plants per plot were inoculated by forcing a toothpick through the stem in the upper one-third of the plant. Stem canker lesion development was rated after the susceptible check had been killed by the disease.

Strains were assigned a rating based on the mean of four replications using the following scale:

- 1 = resistant (no lesion)
- 2 = moderately resistant (lesion 0-5cm)
- 3 = intermediate reaction (lesion 5-10 cm)
- 4 = moderately susceptible (lesion 10-25 cm)
- 5 = susceptible (lesion > 25 cm)
- 6 = very susceptible (plants dead)

Sudden death syndrome. Soybean sudden death syndrome (SDS) was evaluated for UIVS and UV at Ullin and Ridgeway, Illinois, in three replications of four-row plots 24 foot long.

TABLE 36 - GENERAL SUMMARY OF PERFORMANCE FOR STRAIN/VARIETY GROWN IN UNIFORM GROUP VI, 1995.

STRAIN/ VARIETY	YIELD			PROTEIN			OIL		
	1995	94-95	93-95	1995	94-95	93-95	1995	94-95	93-95
1. BRIM	41.2	44.0	42.4	42.9	43.4	42.7	20.2	20.2	20.2
2. DILLON	41.7	.	.	42.4	.	.	20.7	.	.
3. AU90-442	35.0	41.2	.	41.6	42.0	.	20.6	20.8	.
4. AU90-585	42.4	44.9	.	42.0	42.6	.	20.5	20.4	.
5. G89-300	41.5	43.8	.	40.1	40.7	.	20.9	20.7	.
6. G89-2223	42.2	45.1	.	42.6	43.2	.	21.0	20.9	.
7. N90-541	40.2	44.5	42.1	41.9	42.4	41.7	22.1	22.0	22.4
8. N91-386	37.4	41.7	.	43.4	43.6	.	19.7	19.8	.
9. SC89-181	40.1	42.2	42.1	41.1	41.7	41.1	20.0	20.0	20.1
10. SC90-2089	43.4	45.0	.	43.3	43.8	.	19.9	19.9	.
11. AU91-158	41.3	.	.	41.5	.	.	20.6	.	.
12. AU91-1371	40.4	.	.	41.2	.	.	19.9	.	.
13. D92-4216	36.3	.	.	43.7	.	.	19.6	.	.
14. N92-598	41.0	.	.	40.5	.	.	21.8	.	.
15. N92-612	37.4	.	.	39.6	.	.	21.3	.	.
16. NTCPR92-40	35.7	.	.	42.3	.	.	20.7	.	.
17. R91-4484	39.2	.	.	43.2	.	.	20.5	.	.
18. SC91-2007	42.2	.	.	42.3	.	.	20.9	.	.
19. V88-494	41.8	44.3	42.9	42.5	42.8	42.0	20.7	20.6	20.8

BOTANICAL TRAITS

STRAIN/ VARIETY	FL.	MAT.	LODGING	HEIGHT	SEED QUALITY	SEED SIZE	PUB. COLOR	POD COLOR
	COLOR	DATE						
1. BRIM	W	0	2.0	33	1.5	12.3	G	BR
2. DILLON	P	-4	1.7	32	1.6	14.0	G	T
3. AU90-442	P	6	2.3	33	1.8	11.8	T	T
4. AU90-585	P	1	2.3	31	1.7	12.0	G	T
5. G89-300	P	3	1.7	32	1.6	14.7	T	T
6. G89-2223	W	0	2.2	29	1.5	12.8	T	T
7. N90-541	W	-6	1.2	26	1.9	13.8	T	T
8. N91-386	P	2	2.0	35	1.6	18.7	T	T
9. SC89-181	W	3	2.1	32	1.6	11.5	G	T
10. SC90-2089	W	3	2.0	31	1.7	12.6	G	T
11. AU91-158	P	-1	2.1	30	1.7	13.3	T	T
12. AU91-1371	P	3	1.9	31	1.6	12.1	G	T
13. D92-4216	W	3	2.9	31	1.7	13.4	G	T
14. N92-598	P	-3	1.5	27	2.2	15.5	G	BR
15. N92-612	P	-5	1.5	28	2.2	14.9	G	T
16. NTCPR92-40	P	-2	2.3	33	2.0	19.2	G	T
17. R91-4484	P	-7	1.6	26	2.0	15.0	T	BR
18. SC91-2007	W	6	2.1	36	1.5	13.4	G	T
19. V88-494	P	2	1.6	29	1.7	13.0	G	T

MUSEN

SANTER

TABLE 36 - (Continued).

PEST REACTIONS

STRAIN/ VARIETY	STEM	M.a. GA	M.a. TN	M.i. GA	M.i. TN	SCN 3	SCN 14	VBC
	CANKER MS							
1. BRIM	4.5	4.0	4.0	3.5	1.2	4.7	4.7	7.0
2. DILLON	2.6	5.0	1.2	1.5	1.0	5.0	4.4	5.0
3. AU90-442	5.0	3.3	1.2	1.3	1.0	5.0	4.0	5.3
4. AU90-585	1.0	4.3	2.2	1.3	1.3	5.0	4.8	6.5
5. G89-300	1.0	4.3	1.3	1.5	1.0	4.7	4.4	5.7
6. G89-2223	1.0	2.3	1.0	1.3	1.0	1.0	4.2	6.7
7. N90-541	1.6	3.8	3.8	3.3	1.8	4.7	4.7	8.0
8. N91-386	1.0	3.8	1.3	1.5	1.3	4.9	4.3	4.8
MUSEN 9. SC89-181	1.0	4.0	1.3	1.0	1.0	1.1	1.2	8.0
10. SC90-2089	1.0	2.8	1.0	1.8	1.0	1.1	3.8	7.8
11. AU91-158	4.0	2.8	3.0	3.8	1.1	1.6	3.0	7.2
12. AU91-1371	1.5	4.3	3.8	4.3	2.7	1.0	2.4	4.5
13. D92-4216	1.1	3.3	1.7	2.0	2.0	3.0	1.5	5.2
14. N92-598	4.5	4.0	3.8	3.0	2.2	4.7	1.3	5.2
15. N92-612	4.9	3.0	2.4	2.3	1.1	5.0	1.2	5.5
16. NTCPR92-40	5.0	4.8	4.0	5.0	2.0	4.9	2.2	7.5
17. R91-4484	4.4	3.8	4.5	5.0	3.8	1.1	2.8	8.3
SANTEE 18. SC91-2007	1.0	3.3	1.2	3.3	1.0	1.4	4.2	7.3
19. V88-494	1.0	3.8	3.8	4.0	2.3	4.6	3.8	6.3



The Georgia Agricultural Experiment Stations
College of Agricultural and Environmental Sciences
The University of Georgia

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2000 Soybean, Sorghum Grain and Silage, Grain Millet, Sunflower and Summer Annual Forage Performance Tests

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and Paul A. Rose

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Plains, Georgia:
Two-Year Summary of Late-Planted Soybean Performance,
1999-2000, Irrigated

Company or Brand Name	Variety	Yield ¹			Maturity	Plant Ht.	Lodg. ²	Weight of 100 Seed	Seed Quality ³
		2-Year Average	2000	1999					
		----- bu/acre -----			mo/day	in	rating	gm	rating
<u>Maturity Groups VI, VII, and VIII</u>									
SGA	Haskell	42.2	60.2	24.2	10/14	33	2.3	15.2	2.0
So. States	FFR-665N	41.5	52.0	31.0	10/11	33	1.5	14.4	2.2
So. States	FFR-696	41.2	53.1	29.4	10/14	37	2.5	14.5	1.8
Univ of Ga	G90-R1551E	40.4	51.0	29.9	10/19	32	1.7	13.6	1.5
Univ of Ga	G93-2225	39.4	51.4	27.5	10/16	33	1.3	14.5	1.8
Public Variety	Cook	38.9	47.8	30.0	10/17	36	1.7	13.8	2.0
So. States	FFR-688	38.8	43.3	34.3	10/12	35	2.0	13.9	2.0
NK	S75-55	38.4	48.6	28.2	10/16	35	1.0	15.3	1.8
NK	S83-30	38.0	49.0	27.0	10/21	35	1.8	14.2	1.8
SGA	Boggs	37.4	43.4	31.3	10/10	33	2.2	12.1	2.2
Public Variety	Kuell	37.3	46.6	28.0	10/23	33	2.0	14.4	1.8
Univ of Ga	G92-2167	36.7	44.7	28.7	10/19	36	1.7	12.9	1.8
So. States	FFR-731N	36.2	46.3	26.0	10/12	33	1.3	13.9	1.8
Public Variety	Carver	36.2	43.0	29.3	10/13	35	2.2	13.3	1.7
Public Variety	Hagood	36.0	44.5	27.5	10/21	34	1.8	14.9	2.0
Pioneer	97B61	36.0	46.6	25.4	10/15	37	1.5	15.2	1.8
Public Variety	SC91-2007	36.0	42.8	29.2	10/21	37	1.2	14.4	1.8
Univ of Ga	G91-151	35.0	42.1	28.0	10/15	34	1.0	13.2	1.8
Univ of Ga	G93-1749	34.5	44.0	25.0	10/15	37	2.0	13.8	2.0
SGA	Benning	34.5	42.7	26.3	10/15	35	1.7	13.4	2.0
Pioneer	9831	34.2	42.7	25.6	10/16	35	1.8	14.3	1.8
SGA	Prichard	33.8	40.9	26.8	10/26	35	2.0	14.4	1.7
Public Variety	Motte	33.3	41.0	25.5	10/19	34	1.7	14.9	1.8
Public Variety	Musen	32.9	37.2	28.7	10/16	32	1.5	11.4	2.0
Average		38.9 ⁴	47.8	30.0	10/17	36	1.7	13.8	2.0
LSD at 10% Level		N.S. ⁵	6.3	N.S.	04	N.S.	N.S.	N.S.	N.S.
Std. Err. of Entry Mean		1.5	2.7	2.2	01	1	0.3	0.3	0.1

1. Yields calculated at 13% moisture.

2. Lodging rating: Rated 1 (all plants erect) to 5 (over 80% of plants down).

3. Seed quality rating: Rated 1 (very good) to 5 (very poor).

4. CV = 11.6% and df for EMS = 92.

5. The F-test indicated no statistical differences at the alpha = .10 probability level; therefore a LSD value was not calculated.

Bolding within each test denotes entries with yields equal to the highest yielding entry based on Fisher's protected

Planting dates: 6/21/99 and 6/12/2000.

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) South Carolina Agriculture and Forestry Research System	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER SC91-2007	3. VARIETY NAME Santee
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 104 Barre Hall Clemson University Clemson, SC 29634-0351	5. TELEPHONE (include area code) 864/656-3140	6. FAX (include area code) 864/656-3779
7. PVPO NUMBER 200100207		

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain.

☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company?
If no, give name of country

☒ YES ☐ NO

10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer the following:

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

☐ YES ☐ NO If no, give name of country

b. If original rights to variety were owned by a company, is the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (If needed, use reverse for extra space):

SC91-2007, SANTEE soybean was originated and developed by Dr. Emerson R. Shipe, a plant breeder employed by Clemson University/South Carolina Agriculture and Forestry Research System. By agreement between employee and Clemson University, all rights to any invention, discovery, or development made by an employee are assigned to the University. No rights to such invention, discovery, or development are retained by the employee.

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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200100207

United States
Department of
Agriculture

Marketing and
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Agricultural
Marketing
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Livestock and
Seed Program

Seed Regulatory
and Testing Branch

B-306, Rm. 213
BARC-East
Beltsville, Maryland
20705-2325

Phone:
301-504-8138

FAX:
301-504-8098

E-mail:
Al.burgoon@usda.gov

Web Site:
[www.ams.usda.gov/
lsg/seed/lsg-sd.htm](http://www.ams.usda.gov/lsg/seed/lsg-sd.htm)

May 9, 2000

Mr. Emerson Shipe
Clemson University
SC Agric. & For. Res. System
Dept CSES, Box 340359
Clemson University
Clemson, South Carolina 29634-0359

Dear Mr. Shipe:

In response to your inquiry concerning variety names, we have checked with our own database and found the following:

Names Cleared: 'Chester,' 'Elko,' 'Santee,' and 'Winfield' for soybean. Notes: 'Chester' was cleared previously (used?). See the enclosures.

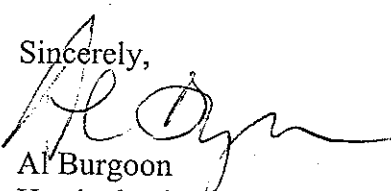
Notes: **We are no longer doing Trademark searches on proposed variety names.** The Trademark database can be accessed via the Internet at the following web page: "<http://www.uspto.gov/tmdb/index.html>." Because there is no variety registration system, we cannot assure you that these names are free of conflicts. Moreover, our clearance confers no legal precedence.

Name Not Cleared: 'Sharp' for soybean. This is a soybean variety.

We are happy to help you in this matter. **Please inform us about your new variety releases, including the kind, release date, and experimental designation(s) of the new varieties. Also, please indicate which names you decline to use so that they may be returned to the pool of available names.**

Thank you.

Sincerely,


Al Burgoon
Horticulturist
Testing Section

Enclosures



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